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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,955	09/04/2003	Qiang Qiu	10191/3334	8919

26646 7590 03/17/2009

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EXAMINER	
LO, SUZANNE	

ART UNIT	PAPER NUMBER
2128	

MAIL DATE	DELIVERY MODE
03/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/655,955	QIU, QIANG	
	Examiner	Art Unit	
	SUZANNE LO	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5,7,8,10,13,14,17,18,20,21 and 23-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5,7,8,10,13,14,17,18,20,21 and 23-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 4-5, 7-8, 10, 13-14, 17-18, 20-21, and 23-28 have been presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1,4-5, 10, 14, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fittanto et al. ("Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program") in view of Woll et al. (U.S. Patent No. 5,581,464) in further view of Lai (U.S. Patent No. 6,564,149 B2).**

As per claim 1, Fittanto is directed to a method for analyzing driving data of at least two vehicles involved in a collision, comprising: calculating a three-dimensional, kinematic model **(page 13, Introduction)** of at least two vehicles **(Figures 12-14)**, the model including at least one linear-motion-dynamics signal **(page 21, 2nd column, last paragraph)** and at least one lateral-motion-dynamics signal **(page 21, 2nd column, last paragraph)** and wherein a time basis for the at least one linear-motion-dynamics signal and at the at least one lateral-motion-dynamics signal is provided by a real-time clock *of at least one of the two vehicles* and recorded **(Figures 15-16 and accompanying text)**, and visually

representing the three-dimensional, kinematic model of the at least two vehicles involved in the collision **(Figures 12-14 and accompanying text)** but fails to explicitly disclose a radar signal of an adaptive cruise control system of each of the at least two vehicles wherein the at least one lateral-motion-dynamics signal includes a rotational-rate signal of a yaw sensor and wherein the radar signal of the adaptive cruise control system and the time basis provided by the real-time clock are utilized to determine relative positions of the at least two vehicles.

Woll teaches a radar signal of an adaptive cruise control system of each of the at least two vehicles **(column 3, lines 45-59)** wherein the at least one lateral-motion-dynamics signal includes a rotational-rate signal of a yaw sensor **(column 4, lines 10-18)** and wherein the radar signal of the adaptive cruise control system **(column 3, lines 40- 59)** and the time basis provided by the real-time clock of the at least one of two vehicles **(column 4, lines 33-38 and column 7, lines 28-38)** are utilized to determine relative positions of the at least two vehicles **(column 3, line 60 – column 4, line 7)**. Fittanto and Woll are analogous art because they are both from the same field of endeavor. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of analyzing driving data of Fittanto with the radar signal and yaw sensor of Woll in order to make accident reconstruction more reliable and less expensive **(Woll, column 11, lines 59-62)**.

However, the combination of Fittanto and Woll fails to disclose wherein the radar signal of the adaptive cruise control system and the time basis provided by the real-time clock are utilized to *form a frame of reference from which the* relative positions of the at least two vehicles *are determined*. Lai teaches wherein the radar signal of the adaptive cruise control system and the time basis provided by the real-time clock are utilized to form a frame of reference from which the relative positions of the at least two vehicles are determined **(column 5, lines 35-45)**. Fittanto and Woll are analogous art because they are both from the same field of endeavor, creating kinematic models of vehicles. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of

analyzing driving data of Fittanto and Woll with the method of creating a frame of reference of Lai in order to lower the inaccuracies of real-time positioning **(Lai, column 5, lines 40-44)**.

As per claim 5, the combination of Fittanto, Woll, and Lai already discloses the method as recited in claim 1, wherein: the at least one lateral-motion-dynamics signal further includes at least one of lateral-acceleration signals and steering-angle signals **(Woll, column 4, 2-18)**.

As per claim 10, the combination of Fittanto, Woll, and Lai is directed to a system for analyzing vehicle data of at least two vehicles involved in a collision, comprising components to perform the method steps of claim 1 and are therefore rejected over the same art combination.

As per claims 14 and 18, the combination of Fittanto, Woll, and Lai is directed to a computer program stored on a computer-readable medium having a program-code that when executed on one of a computer and a processing unit results in a performance of the method steps of claim 1 and 5 and is therefore rejected over the same art combination.

3. Claims 4 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fittanto et al. ("Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program") in view of Woll et al. (U.S. Patent No. 5,581,464) in further view of Lai (U.S. Patent No. 6,564,149 B2) **in further view of Baque et al. (U.S. Patent No. 6,246,933 B1).**

As per claim 4, the combination of Fittanto, Woll, and Lai already discloses the method as recited in claim 1, wherein: the at least one linear-motion-dynamics signal includes at least one of speed signals of all wheels, vehicular-speed signals, longitudinal-acceleration signals **(Woll, column 4, lines 2-18)** but fails to explicitly teach a GPS signal. Baque teaches wherein linear-motion-dynamics includes a GPS signal **(column 9, line 64- column 10, line 3)**. Fittanto, Woll, Lai, and Baque are analogous art because they are all from the same field of endeavor, analyzing driving data. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of analyzing

driving data of Fittanto, Woll, and Lai with the GPS signal of Baque in order to make accident reconstruction more reliable and less expensive **(Woll, column 4, lines 16-18)**.

As per claim 17, the combination of Fittanto, Woll, Lai and Baque is directed to a computer program stored on a computer-readable medium having a program-code that when executed on one of a computer and a processing unit results in a performance of the method steps of claim 4 and is therefore rejected over the same art combination.

4. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fittanto et al. ("Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program") in view of Woll et al. (U.S. Patent No. 5,581,464) in further view of Lai (U.S. Patent No. 6,564,149 B2) **in further view of Hathout et al. (U.S. Patent No. 6,675,074 B2).**

As per claim 7, the combination of Fittanto, Woll, and Lai is directed to the method as recited in claim 1, but fails to specifically disclose wherein a rotational-rate signal of an ESP system is utilized as the rotational-rate signal of the yaw sensor. Hathout teaches utilizing a rotation-rate signal of an ESP system **(column 3, lines 1-9)**. Fittanto, Woll, Lai and Hathout are analogous art because they are from the same field of endeavor, recording driving data. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of analyzing driving data of Fittanto, Woll, and Lai with the rotational-rate signal of Hathout in order to better calculate positions in real time **(Hathout, column 3, lines 1-9)**.

As per claim 20, the combination of Fittanto, Woll, Lai, and Hathout is directed to a computer program having a program-code that when executed on one of a computer and a processing unit results in a performance of the method steps of claim 7 and is therefore rejected over the same art combination.

5. **Claims 8, 13, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fittanto et al. ("Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program") in view of Woll et al. (U.S. Patent No. 5,581,464) in further view of Lai (U.S. Patent No. 6,564,149 B2) **in further view of Rayner (U.S. Patent No. 6,718,239 B2).**

As per claim 8, the combination of Fittanto, Woll, and Lai is directed to the method as recited in claim 1,but fails to specifically disclose further comprising: outputting a message based on the at least one linear-motion-dynamics signal and the at least one lateral-motion-dynamics signal in response to a predeterminable event. Rayner teaches outputting a message based on linear and lateral dynamics signals **(column 5, line 63 – column 6, line 2)**. Fittanto, Woll, Lai and Rayner are analogous art because they are from the same field of endeavor, recording driving data. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of analyzing driving data of Fittanto, Woll, and Lai with the output message of Rayner in order to provide feedback to an operator **(Rayner, column 5, line 63 – column 6, line 2)**.

As per claim 13, the combination of Fittanto, Woll, Lai, and Rayner is directed to a device for acquiring vehicle data, comprising components to perform the method steps of claim 8 and is therefore rejected over the same art combination.

As per claim 21, the combination of Fittanto, Woll, Lai, and Rayner is directed to a computer program having a program-code that when executed on one of a computer and a processing unit results in a performance of the method steps of claim 8 and is therefore rejected over the same art combination.

6. **Claims 23, 25, and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fittanto et al. ("Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program") in view of Woll et al. (U.S. Patent No. 5,581,464) in further view of Lai (U.S. Patent No. 6,564,149 B2) **in further view of Janky et al. (U.S. Patent No. 5,625,556).**

As per claim 23, the combination of Fittanto, Woll, Lai already discloses the method as recited in claim 1 but fails to explicitly disclose wherein the real-time clock is automatically calibrated via radio. Janky teaches wherein the real-time clock of a vehicle is automatically calibrated via radio **(column 6, lines 10-30)**. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of analyzing driving data of Fittanto, Woll, and Lai with the calibration of the clock of Janky in order to maintain a more accurate clock **(Janky, column 6, lines 35-40)**.

As per claim 25, the combination of Fittanto, Woll, Lai, and Janky is directed to a system for acquiring vehicle data, comprising components to perform the method steps of claim 23 and is therefore rejected over the same art combination.

As per claim 27, the combination of Fittanto, Woll, Lai, and Janky is directed to a computer program having a program-code that when executed on one of a computer and a processing unit results in a performance of the method steps of claim 23 and is therefore rejected over the same art combination.

7. **Claims 24, 26, and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fittanto et al. ("Overview of CARAT-4, a Multi-body Simulation and Collision Modeling Program") in view of Woll et al. (U.S. Patent No. 5,581,464) in further view of Lai (U.S. Patent No. 6,564,149 B2) **in further view of Burge (U.S. Patent Application No. 2002/0103622).**

As per claim 24, the combination of Fittanto, Woll, and Lai already discloses the method as recited in claim 1, but fails to explicitly disclose determining, based on the three-dimensional, kinematic model of the at least two vehicles, a force exerted by the collision on an occupant of at least one of the vehicles; and responsive to determining of the force exerted, transmitting an alert message for delivery to a rescue service, the alert message including an indication of a severity of the collision. Burge teaches determining, based on the three-dimensional, kinematic model of the at least two vehicles, a force exerted by the collision on an occupant of at least one of the vehicles **([0005])**; and responsive to determining of

the force exerted, transmitting an alert message for delivery to a rescue service, the alert message including an indication of a severity of the collision **([0296],[0299])**. It would have been obvious to an ordinary person skilled in the art at the time of the invention to combine the method of analyzing driving data of Fittanto, Woll, and Lai with the alert system of Burge in order to decrease the loss of life and injury in a vehicle accident **(Burge, [0005])**.

As per claim 26, the combination of Fittanto, Woll, Lai, and Burge is directed to a system for acquiring vehicle data, comprising components to perform the method steps of claim 24 and is therefore rejected over the same art combination

As per claim 28, the combination of Fittanto, Woll, Lai, and Burge is directed to a computer program having a program-code that when executed on one of a computer and a processing unit results in a performance of the method steps of claim 24 and is therefore rejected over the same art combination.

Response to Arguments

6. Applicant's arguments filed 11/17/08 have been fully considered but they are not persuasive.

In response to Applicant's argument that the combination of Fittanto and Woll do not disclose a consistent teach of real-time clock measurement, the Applicant is first directed to Woll, **column 4, lines 33-38 and column 7, lines 28-39** which disclose a real-time clock by which all data is recorded with it as a basis. While Woll also discloses a digital clock signal of ones and zero in column 5, lines 55-65 to coordinate to prevent error in data transfer to and from a RAM card, the real-time clock of Woll, not the digital clock of Woll is the time basis for data recording. Furthermore, while Fittanto has user controlled time windows for backward mode simulation, the forward mode simulation of vehicle collisions reflect usage of a real-time clock.

Applicant's arguments with respect to the amended claim language "wherein the radar signal and time basis are utilized to form a frame of reference" have been considered but are moot in view of the new grounds of rejection.

As the independent claim are still rejected in view of the prior art, the dependent claim rejections are maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record is not relied upon because it is cumulative to the applied rejection. These references include:

1. U.S. Patent No. 6,748,305 B1 issued to Klauser et al. on 06/08/04.

2. U.S. Patent No. 5,826,206 issued to Nemeth on 10/20/98.

3. U.S. Patent No. 6,535,804 B1 issued to Chun on 03/18/03.

8. All Claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suzanne Lo whose telephone number is (571)272-5876. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571)272-2297. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamini S Shah/
Supervisory Patent Examiner, Art Unit 2128

/SL/
02/27/09